

WHAT IS CLAIMED IS:

1. A system for remote monitoring and controlling of energy consumption of a facility, comprising:
 - a processor;
 - 5 a database coupled to the processor, the database operable to receive and store energy consumption data associated with the facility;
 - a memory coupled to the processor;
 - an analysis engine residing in the memory and executable by the processor, the analysis engine operable to evaluate the energy consumption data and determine whether energy consumption operating parameters require modification to increase efficiency; and
 - 10 a control engine residing in the memory and executable by the processor, the control engine operable to initiate operating parameter modification of an energy consumption system of the facility in response to a desired operating parameter modification.
- 20 2. The system of Claim 1, wherein the database receives the energy consumption data via an Internet communications network.
3. The system of Claim 1, wherein the database
25 receives the energy consumption data from a data collector disposed at the facility.
4. The system of Claim 1, wherein database further receives and stores environmental data, and wherein the
30 analysis engine is further operable to determine whether operating parameter modification is required using the environmental data.

5 The system of Claim 4, wherein the environmental data comprises environmental forecast information, and wherein the analysis engine is operable to determine whether operating parameter modification is
5 required for the energy consumption system using the environmental forecast information.

6 The system of Claim 1, further comprising a reporting engine residing in the memory and executable by
10 the processor, the reporting engine operable to generate an energy consumption report based on the energy consumption data.

7 The system of Claim 1, further comprising a
15 validation engine residing in the memory and executable by the processor, the validation engine operable to validate the energy consumption data.

8 The system of Claim 7, wherein the validation
20 engine is operable to validate the energy consumption data using environmental data.

9 The system of Claim 7, wherein the validation
engine is operable to validate the energy consumption
25 data using historical energy consumption data associated with the facility.

10 The system of Claim 1, wherein the control
engine is further operable to control a rate of energy
30 consumption data collection at the facility.

11. The system of Claim 1, wherein the control engine is further operable to modify a rate of energy consumption data collection at the facility in response to a predetermined sequence of events.

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12. The system of Claim 1, further comprising a plurality of data collectors disposed at the facility and operable to acquire energy consumption information associated with the facility.

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13. The system of Claim 12, wherein the data collectors are coupled together, and wherein one of the data collectors is operable to transmit the respective acquired energy consumption information to another data collector.

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14. The system of Claim 13, wherein the one data collector is operable to transmit the respective acquired energy consumption information in response to a predetermined event.

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15. A method for remote monitoring and controlling of energy consumption of a facility, comprising:

receiving energy consumption data associated with the facility at a processor disposed remotely from the facility;

receiving environmental data associated with the facility;

determining whether an operating parameter of an energy consumption system of the facility requires modification to increase efficiency using the energy consumption data and the environmental data; and

automatically modifying the operating parameter of the energy consumption system corresponding to the required modification.

16. The method of Claim 15, wherein receiving the energy consumption data comprises receiving the energy consumption data via an Internet communications network.

17. The method of Claim 15, wherein receiving the energy consumption data comprises receiving the energy consumption data from a data collector disposed at the facility.

18. The method of Claim 15, wherein receiving the environmental data comprises receiving environmental forecast information, and wherein determining comprises determining whether the operating parameter of the energy consumption system of the facility requires modification using the environmental forecast information.

19. The method of Claim 15, further comprising generating an energy consumption report based on the energy consumption data.

5 20. The method of Claim 15, further comprising validating the energy consumption data.

21. The method of Claim 20, wherein validating comprises comparing the energy consumption data to
10 historical energy consumption information.

22. The method of Claim 15, further comprising:
determining whether a value of the energy
consumption data remains substantially constant for a
15 predetermined time period; and
validating the energy consumption data if the value
remains substantially constant for the predetermined time
period.

20 23. The method of Claim 15, further comprising:
determining whether a value of the energy
consumption data exceeds a predetermined range for the
energy consumption data; and
validating the energy consumption data if the value
25 exceeds the predetermined range.

24. The method of Claim 15, further comprising automatically controlling a rate of energy consumption data collection at the facility.

25. The method of Claim 15, further comprising automatically modifying a rate of energy data collection at the facility in response to a predetermined sequence of events.

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26. The method of Claim 15, further comprising providing a plurality of data collectors coupled together at the facility, and wherein receiving the energy consumption data comprises receiving the energy
10 consumption data from the data collectors.

27. The method of Claim 26, further comprising:
determining whether a predetermined event occurs associated with energy consumption data loss; and
15 automatically transmitting energy consumption information acquired by one of the data collectors to another data collector in response to the occurrence of the predetermined event.

28. A system for remote monitoring and controlling energy consumption of a facility, comprising:

a processor;

5 a plurality of data collectors disposed at the facility, the plurality of data collectors operable to automatically transmit energy consumption data to the processor, the energy consumption data associated with an energy consumption system of the facility;

a memory coupled to the processor; and

10 an analysis engine residing in the memory and executable by the processor, the analysis engine operable to evaluate the energy consumption data and determine energy consumption efficiency of the system, the analysis engine further operable to determine whether an operating
15 parameter modification to the system would result in an energy consumption efficiency increase.

29. The system of Claim 28, wherein the plurality of data collectors is operable to automatically transmit
20 the energy consumption data via an Internet communications network to the processor.

30. The system of Claim 28, wherein the data collectors are coupled together, and wherein each of the
25 data collectors is operable to share energy consumption data with another data collector.

31. The system of Claim 28, further comprising a control engine residing in the memory and executable by
30 the processor, the control engine operable to initiate a modification to a rate of data collection by the data collectors.

32. The system of Claim 28, wherein each of the data collectors is further operable to store a history of energy consumption data values for a predetermined time period.

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33. The system of Claim 32, wherein each of the data collectors is operable to transmit a predetermined quantity of the energy consumption data values occurring prior to and after a predetermined event to the processor
10 after the occurrence of the predetermined event.

34. The system of Claim 33, wherein each of the data collectors is operable to determine an average energy consumption data value for a predetermined time
15 interval and transmit the average energy consumption data value to the processor if the predetermined event does not occur.

35. The system of Claim 32, wherein each of the
20 data collectors is operable to transmit the respective energy consumption data to another data collector upon the occurrence of a predetermined event.

36. The system of Claim 28, wherein the processor
25 is further operable to access an environmental service to retrieve environmental data associated with the facility, and wherein the analysis engine is further operable to evaluate the system using the environmental data and the energy consumption data.

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37. The system of Claim 28, further comprising a
control engine residing in the memory and executable by
the processor, the control engine operable to initiate
the operating parameter modification of the energy
5 consumption system.